

oldest *specific* name, and ought perhaps to be employed under any circumstances; but we would certainly admit very little proof as sufficient for the dismissal of so incorrect a name as *recurva*.

*Athyrium filix-femina*.—The account of this plant is well deserving of careful study, as we suspect that the plant named *A. rhaticum* by Roth will be found to be a distinct species.

It appears to be highly probable that *Trichomanes speciosum* is identical with *T. radicans*, as stated by Sir W. J. Hooker in his 'Species Filicum'; indeed his series of specimens is so perfect, that it is hardly possible to come to any other conclusion. That our plant is the *T. speciosum* (Willd.) is certain, and we also feel quite convinced that the supposed new species named *T. Andrewsii* by Newman is only one of its forms.

We have been considerably amused by observing the credit which our author takes to himself for his figures of our two *Hymenophylla*, that of *H. Wilsoni* appearing to us to be by far the most unsatisfactory figure contained in his book.

Having now occupied so much space, we cannot enter upon the consideration of the many valuable observations contained in other parts of the work before us, but protest against an endeavour made in the Synopsis, the last written part although the commencement of the book, to change two known and recognised generic names solely because they were originally employed specifically for the plants upon which the genera are founded; *Scolopendrium* Mr. Newman would change into *Phyllitis*, and *Ceterach* into *Notolepeum*. He would also separate *Asplenium septentrionale*, *germanicum* and *rutamuraria* from that genus, and give them the name of *Amesium*. We doubt if the want of a distinct mid vein to the ultimate divisions is a sufficient reason for the formation of a new genus.

In conclusion we again compliment Mr. Newman upon the excellent book which he has produced, one which must find its way into the hands of all botanists, who cannot fail to be struck with the great powers of discrimination, accuracy of description, and critical acumen of its author. In beauty of illustration also it is a worthy companion to the elegant and valuable series of works on British Natural History which have been published by Mr. Van Voorst.

*Faune Ornithologique de la Sicile.* Par Alfred Malherbe. 8vo. Metz, 1843. Pp. 242.

This valuable contribution to the zoology of Southern Europe is an extract, published as a separate volume, from the 'Mémoires de l'Académie Royale de Metz.' After a brief *résumé* of the numerous subjects of interest which Sicily presents to the historian, the antiquarian, the geologist, the botanist and the zoologist, the author proceeds to the especial object of his treatise. He enumerates no less than 318 species of Sicilian birds, a number which might surprise us, did we not consider that Sicily, from its intermediate position between Europe and Africa, is resorted to by many species of birds

during the vernal and autumnal migrations, besides those which breed or which hibernate in the island. The author judiciously omits the specific descriptions, which may be found in the works of Temminck, Gould, and other writers on European ornithology, and which would have greatly increased the bulk of his volume. He confines himself therefore to reciting the scientific and vernacular Sicilian synonyms of the species, and adds a multitude of original observations on the migrations, habits and geographical distribution of the several species. In the latter department he was assisted by M. Ledoux, who communicated many details on the birds of Algeria, of which we previously knew but little, and which acquire additional interest when compared with those of Sicily.

Among the many valuable observations in this volume, we may select a few by way of examples. The *Saxicola aurita*, which the Prince of Canino in his 'Fauna Italica' considers to be a peculiar state of plumage of *Saxicola stapazina*, is nevertheless regarded by M. Malherbe as a distinct species. He states that the two species arrive in Sicily together, and leave it at the same period of the year, a fact which would certainly indicate that the difference of plumage in these two birds is not due to change of season. He confirms the statement of Temminck that the blue-throated redstart with a white pectoral spot is confined to the southern and central parts of Europe, while the bird with a rufous spot on the breast forms a "constant race" (in other words a *species*) peculiar to Northern Europe, and only straying by accident into Germany, France and Britain. M. Malherbe agrees with the Prince of Canino in regarding the three yellow wagtails of Southern Europe (*Budytes flava*, *cinereocapilla* and *melanocephala*) as distinct species from each other, and from the *Budytes Rayi* (more properly called by Pallas's name *campestris*) of Britain, France and the Pyrenees. The three former species arrive in Sicily at different periods of the spring, and proceed to various parts of Europe, the *B. flava* extending its migrations to the greatest distance north.

The author sets at rest the statement made by M. Cantraine to M. Temminck, as to the supposed existence of *wild turkeys* in Sicily; the former admitting that he had been deceived so far as Sicily was concerned, but repeating that he had been assured on good authority of the existence of these birds in a wild state on the coast of Dalmatia. M. Malherbe supposes that they may have escaped from some vessel to the shore; but it appears to us far more probable that the whole statement has reference, not to turkeys, but to the great bustard, *Otis tarda*, which is commonly known by the name of "*Dindon sauvage*" among the Franks of the Levant.

The beautiful *Porphyrio antiquorum* of Southern Europe, which is still so rare in our collections, is stated to be abundant in Algeria. In some parts of Sicily it is also very frequent, and is a permanent resident. Its habits seem to be precisely those of the common moorhen (*Gallinula chloropus*), and our author states that these birds are frequently kept alive in the poultry-yards of Sicily, so that they might

easily be introduced into our Zoological Gardens. Another interesting and little-known bird is the *Fulica cristata*, which is abundant at Algiers, and occurs occasionally in Sicily, Sardinia and Provence.

We may here notice a new species of *Picus* described by M. Malherbe in the 'Mémoires de l'Académie de Metz,' 1843, and of which he proposes to give a coloured figure in the general history of the *Picidae*, which he informs us he is now engaged upon. This species, which he names *Picus numidus*, takes the place of *Picus major* in Northern Africa, and is common in the forests of Bona. The size is less than that of *P. major*, but the beak is generally longer. The plumage much resembles that of the latter species, but the white patch on the side of the neck and the white spots on the wings are smaller, and the black stripe on each side of the throat meets in front on the breast, where it is succeeded by a band of crimson.

We shall wait with interest for further contributions to zoology from M. Malherbe, who has already done much to advance science by the above publications.

*Über die Verwandlung der Infusorien in niedere Algenformen.* Von Dr. F. T. Kützing. Nordhausen, 4to, 1844.

It has long been a favourite notion with German botanists, that under varying momenta of air, heat, moisture, &c., the same germ is capable of producing widely different objects. This has been worked out with more or less ability by a host of writers, and though in many cases it has been attempted to support it by the very loosest observations and reasonings, this reproach cannot justly be given to all its supporters, for there are many, not only from their literary reputation but from the merit of the observations themselves, however differently we may be inclined to interpret them, who at least require respectful attention. There is no doubt that the conclusions are implicitly believed by themselves to be just and logical, with a deep persuasion that they are by no means inconsistent with fit and humble views as to the nature of the great Creator of the Universe, and it is clear that they have the greatest difficulty in imagining how they can possibly make a different impression upon others. To such an extent has this notion been carried, that we are informed in the number of 'Botanische Zeitung' for 19th July 1844, that Reissek of Vienna has succeeded in making pollen grains germinate in the parenchym of leaves and stems, not merely of the mother-plant, but also on those of others belonging to different natural orders; that they produced fungi laden with spores, and that these spores when placed in water produced confervoid plants filled with chlorophylle, and copulating with one another; that he observed also the metamorphosis of the pollen cells into animals of Ehrenberg's genus *Astasia*, and that the contents of the pollen cells also produced plants and animals. From the smaller particles were originated *Bacteria*, *Vibrios* and *Confervas*; from the larger, green globular Monads.

He professes also to have observed the metamorphosis of the chlorophylle of phænogamous plants into *Confervæ* and *Infusoria*. From